Tech Showdown – AI Search Tools Special Issue

Cassandra Gorton
Manager, Access & Discovery | Monash Health
Cassandra.Gorton@monashhealth.org | https://orcid.org/0000-0002-7438-8218

Tech Showdown is a regular feature of JoHILA. Novel products, software, and technologies will be compared against each other to determine who is the winner, based on available features, ease of use, and price. If you have an idea for Tech Showdown or would like to see a comparison of two particular technologies, please email Cass.

New digital tools for literature searching are emerging almost weekly, making it challenging for librarians to stay updated. Imagine how overwhelming it must be for our patrons, who balance clinical responsibilities, research, and professional development alongside this constant influx of tools. How can we keep up with these tools? How can we identify and meet user needs? How can we recommend digital tools effectively?

With these questions in mind, Monash Health librarians began exploring various tools during collaborative learning sessions. To ensure that the knowledge and skills gained in these sessions could benefit library users, they introduced a plan to evaluate and rate these tools. The initial category selected for assessment was citation mapping tools, which was discussed in the last special issue of Tech Showdown. This issue will focus on AI search tools.

AI search tools are advanced software applications that use artificial intelligence to enhance the process of finding information. These tools leverage technologies such as machine learning, natural language processing, and data mining to promise more efficient, accurate, and relevant search results.

AI search tools enhance the search experience through several advanced features. Natural Language Processing (NLP) allows them to understand and interpret human language, enabling users to input queries conversationally. They can learn from user behaviour to provide personalised search results and grasp the context of queries to deliver more relevant results. Other features include predictive search capabilities that help anticipate user needs by suggesting relevant queries or results in real-time and semantic search, which enables these tools to understand relationships between different concepts, offering results that are semantically related to the query. Additionally, they provide enhanced filtering and sorting options and can integrate with other software and databases for easier information management.
22 AI search tools were assessed and ranked. These tools included:

- Consensus.app
- Evidence Hunt
- Lens.org
- Semantic Scholar
- Elicit
- Litmaps
- OpenAlex
- Scinapse
- Dimensions
- Scite
- Perplexity
- Textero.io
- LitSense
- ResearchRabbit
- MirrorThink
- CoPilot
- Phind
- ChatGPT
- SciSpace
- OpenRead
- Google Gemini
- Claude

A rating out of 10 was developed to provide library users with a quick overview of the benefit of the tools. Factors included in the rating were:

- Cost: Cost is a barrier to researchers and the optimal tool would be free to use.
    - 0 points if the tool had a price to use all features.
    - 1 point if the tool had a free account option, but limited features.
    - 2 points if the tool is completely free to use.
- Source: AI search tools should draw from academic or scholarly sources to provide relevant and accurate information. Tools should be transparent about their source of information.
    - 0 points if the tool does not specify what its source is.
    - 1 point if the tool used websites to source its information.
    - 2 points if the tool used an academic or scholarly source, such as journal articles.
- Interface: The tool should have an easy-to-use and uncluttered interface, with key features that are easy to locate.

    - 0 points for a tool with a confusing and cluttered interface that is difficult to use.
    - 1 point for a tool that requires some training to use.
    - 2 points for an interface that is easy to navigate and does not require extensive knowledge to use.
- Help information and guidance: The tool should offer on-demand, clear, and plain language supporting documentation or help desk assistance.
    - 0 points for no help information.
    - 1 point for limited or confusing help information
    - 2 points for extensive help information, or a contact for further assistance
- Full Text: The optimal tool will have inbuilt workflows for accessing full-text PDFs of the citations. This can include links to citations in PubMed or the DOI.
    - 0 points if the tool does not specify a citation or provides a hallucinated citation.
    - 1 point if the tool includes accurate citations but does not link to full-text. A tool may also score 1 point if the citation or link it provides is to a website or other source of varying quality.
    - 2 points if the tool includes a link to a PDF, publisher, or other database (such as PubMed) for a scholarly citation.

Using this rating, we determined that Consensus.app, Evidence Hunt, Lens.org, and Semantic Scholar were the most useful tools, having a ranking of 9 out of 10. Elicit, Litmaps, OpenAlex, and Scinapse closely followed with 8 out of 10.

Following this assessment, a one-page matrix was developed that listed key components of the rating that were identified as useful to library users, as well as a "best for" field. We were not able to provide information for all tools on a one-page guide, so the decision was made to present detailed information for the top ranked tools, while also having a 'honourable' and 'dishonourable' mention section to demonstrate that a variety of tools had been assessed. It was theorised that library users will have four main questions regarding AI search tools that we hoped the matrix would anticipate and answer, namely:

- "I have heard of this particular tool; is it good?"
- "I have heard of this particular tool; can you tell me more about it."
- "What else can this tool do?"
- "Where does this tool source its information from?"

This matrix is now available within Monash Health Library's literature searching guide [https://monashhealth.libguides.com/systematic_searching/expand] and a webinar regarding AI search tools, highlighting the matrix, was recently presented to Monash Health employees, researchers, and librarians. The matrix has the Creative Commons BYNC-ND license, allowing re-users to copy and distribute the material in any medium or format in unadapted form only, for non-commercial purposes only, and only so long as attribution is given to Monash Health Library.

Acknowledgements

Cass Gorton would like to acknowledge the work of Monash Health librarians that contributed to the matrix's development, including Madeleine Beer and Hannah Bertoli.